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None

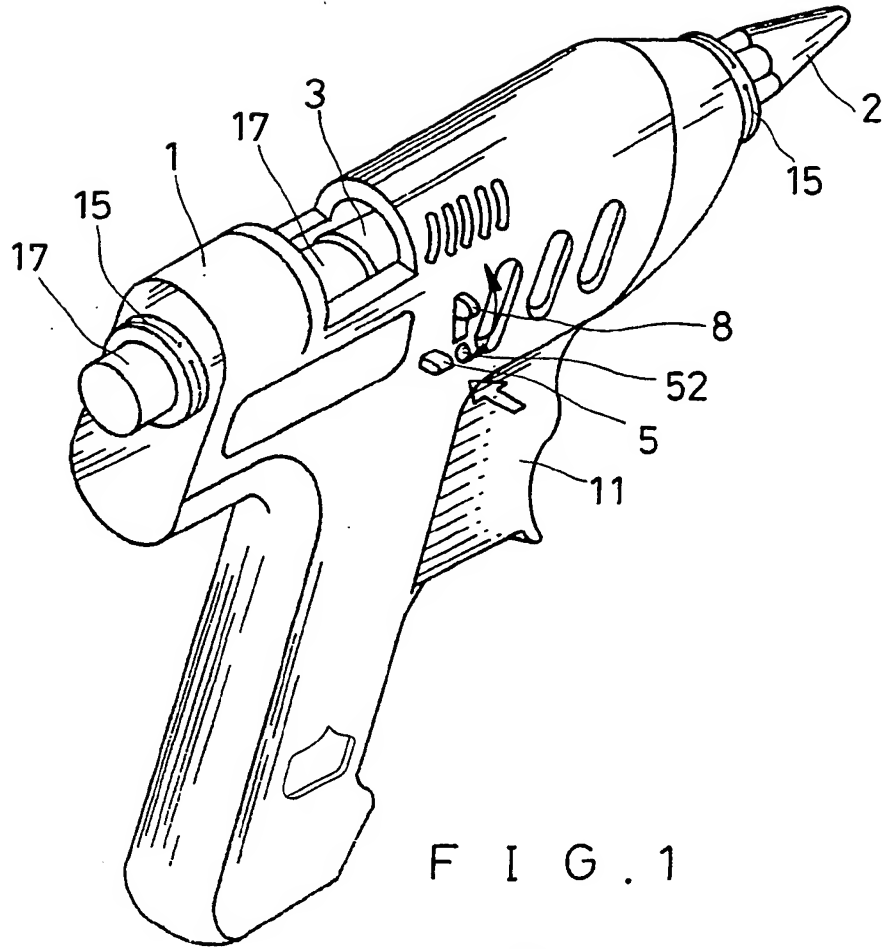
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(54) **A glue gun**

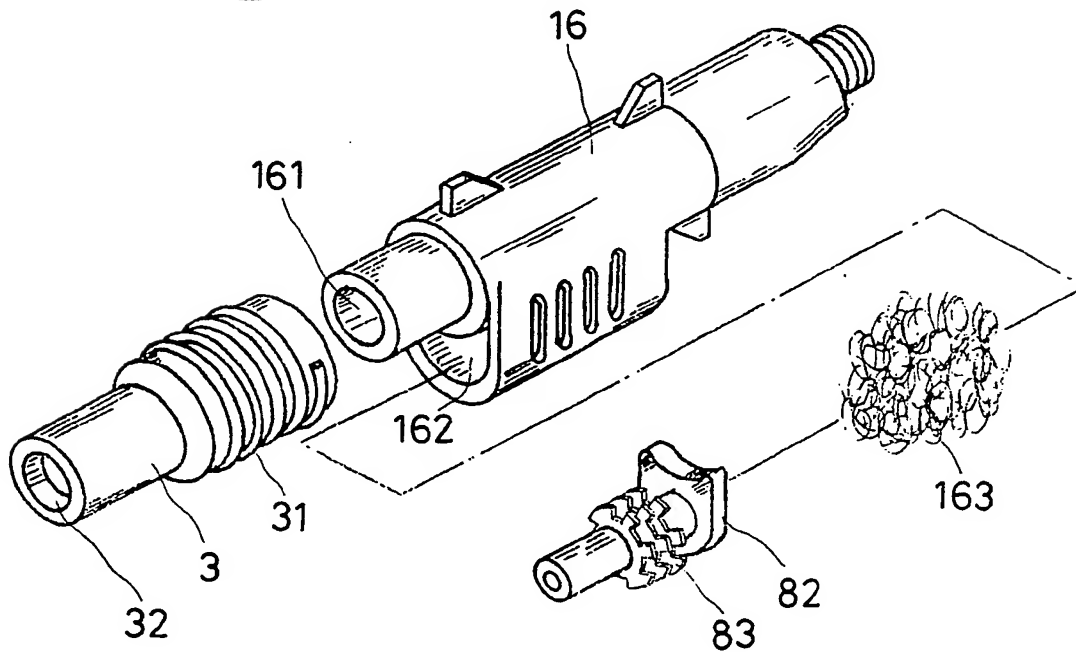
(57) A gas-burnt glue gun comprises a heat conductive element in a combustion chamber at the bottom of a nozzle heated to melt a glue stick for the process of sealing or bonding, an ignition switch controlled to make a fire at a gas burner for burning a flow of gas from a gas tank so as to heat said heat conductive element for melting the glue stick, and a glue stick propelling mechanism to deliver a glue stick into said nozzle for melting.

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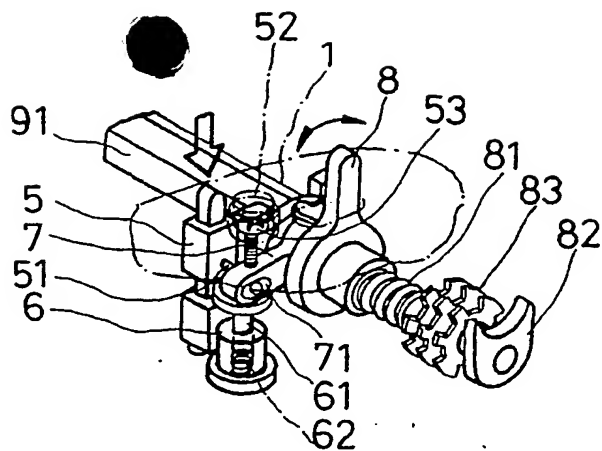
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F I G . 1



F I G . 3



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FIG. 4

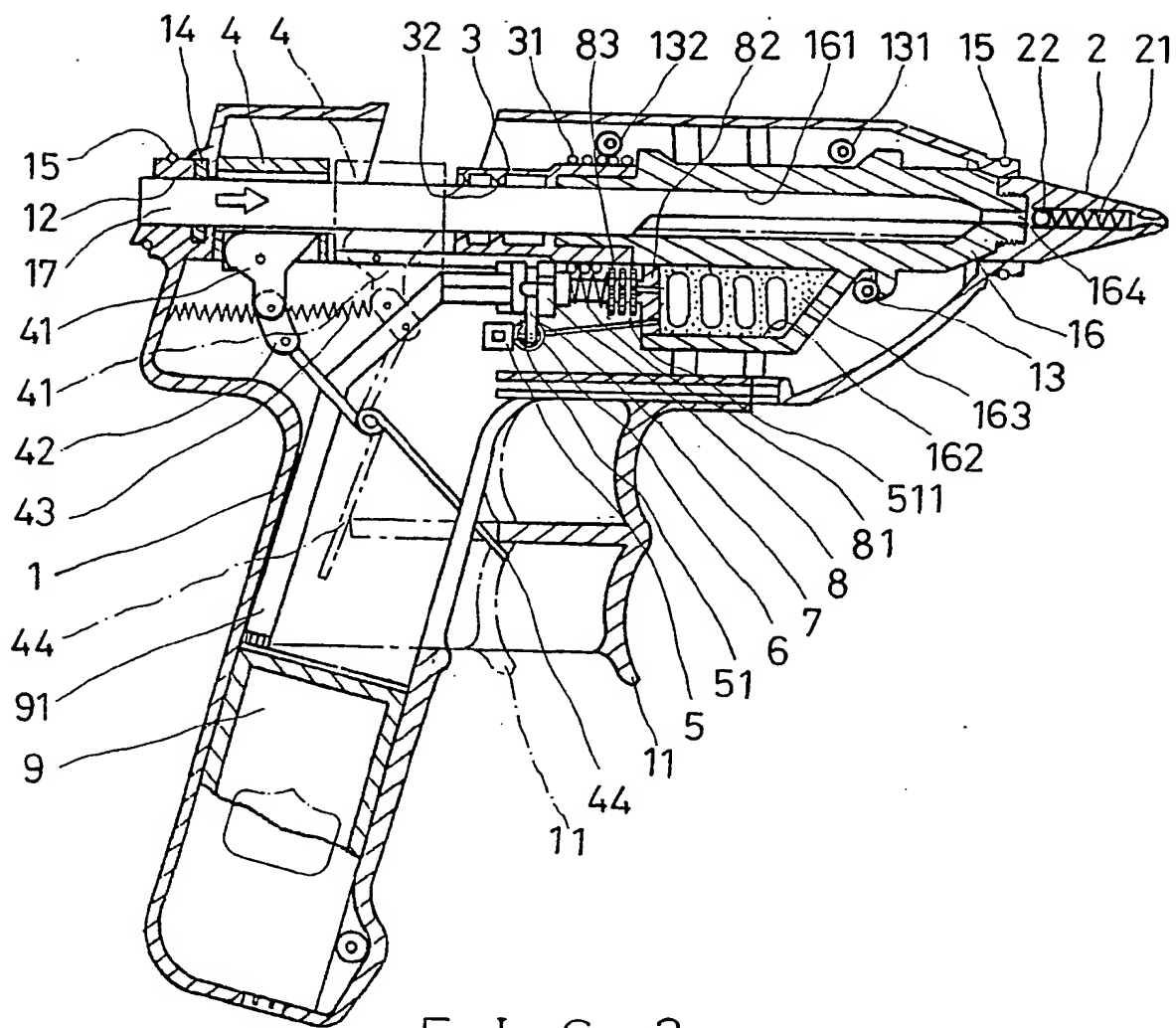


FIG. 2

GAS-BURNT GLUE GUN

The present invention relates to glue guns and relates more particularly to a glue gun which utilizes a gas burner in melting a glue stick for the operation of sealing and bonding.

5 In conventional glue guns, an AC power supply is used as a heating source in melting a glue stick for the operation of sealing. These AC power-operated glue guns are not satisfactory in use. An AC power-operated glue gun must be used in limited places wherein
10 AC power supply is available. Melting a glue stick by heating an electric heating coil takes much time and can not eliminate the problem of incomplete melting of glue. Further, the glue stick forwarding mechanism may be damaged easily when an AC power-operated glue gun
15 is operated during non-operation stage (AC power supply is not connected).

The present invention has been accomplished to eliminate the aforesaid disadvantages. It is therefore the main object of the present invention to
20 provide a glue gun which burns a flow of gas in melting a glue stick for the operation of sealing and bonding efficiently. According to the present invention,

there is provided a gas-burnt glue gun which comprises a heat conductive element in a combustion chamber at the bottom of a nozzle heated to melt a glue stick for the process of sealing or bonding, an ignition switch controlled to make a fire at a gas burner for burning a flow of gas from a gas tank so as to heat said heat conductive element for melting the glue stick, and a glue stick propelling mechanism to deliver a glue stick into said nozzle for melting.

The present invention will now be described by way of example with reference to the annexed drawings, in which:--

Fig. 1 is an elevational view of the preferred embodiment of the glue gun of the present invention;

Fig. 2 is a cross section thereof showing its internal structure;

Fig. 3 is an exploded view of the nozzle, the silicone rubber tube, the heat conductive element and the gas burner

Fig. 4 is a perspective view of the ignition device.

Referring to Figs. 1, 2 and 3, a silicone rubber tube 3 is retained to a nozzle 16, which is set in the casing 1 of a glue gun at a front end thereof, by

a spring 31 of the glue gun. The nozzle 16 comprises a combustion chamber 162 at a bottom thereof with a heat conductive element 163 set therein. The heat conductive element 163 may be a piece of asbestos to be heated for melting a glue stick. The combustion chamber 162 comprises a gas burner 82 attached with radiation fins 83 at an entrance (not shown) thereof. A gas tank 9 is fastened in the grip of the glue gun and connected to the gas burner 82 by a gas tube 91. A set of gas flow regulator knobs 7, 8 are provided at suitable locations for gas flow rate control. A retainer ring 14 is fastened inside a hole 12 on the casing 1 of the glue gun at a rear end thereof for holding a glue stick 17. The silicone rubber tube 3 has an annular flange 32 on a rear end thereof for holding the glue stick 17 which inserts through the hole 12 into the retainer ring 14. Pressing a press button 11 causes a spring 44 to pull a clamp 41 and a connection 42 so as to move a slide 4 forward. When the slide is moved forward, the glue stick 17 is firmly held by the clamp 41 and carried forward by the slide 4. Releasing the press button 11 causes the clamp 41 to release the glue stick 17 and simultaneously causes the slide 4 to be moved back to its original position.

Therefore, the glue stick 17 is not carried backwards when the slide 4 is moved back to its original position. Turning on the gas flow regulator knob 8 causes the gas tank 9 to discharge a flow of gas. Pressing an ignition switch 5 causes an ignition wire 511 to discharge sparks for burning the flow of gas. The ignition switch 5 has a side rod 51 inserted in a round hole 71 on the gas flow regulator knob 7. Pressing the ignition switch 5 simultaneously moves the gas flow regulator knob 7 downwards causing a big flow of gas to be discharged for quick burning. An regulator screw 53 is fastened in a screw hole 52 on the ignition switch 5. Therefore, the strength of the flame can be controlled by screwing the regulator screw 53 inwards or outwards on the screw hole 52. After ignition, the gas flow regulator knob 7 is immediately pushed back to its original position by a push rod 61 which is supported on a spring 62 inside a tube 6 (see Fig. 4). When the flow of gas is burnt at the gas burner 82, the nozzle 16 is heated by the heat conductive element 163 causing the the glue stick 17, which has been moved forwards into the boring bore 161 of the nozzle 16, to be melted quickly. Continuously pressing the press button 11 causes the glue stick 17 to be continuously moved forward by the slide 4, and therefore, melted glue

is moved out of the nozzle 16 for the operation of sealing or bonding.

What is claimed is:

1. A gas-burnt glue gun comprising a housing consisted of two symmetrical shells, a nozzle fastened in said housing at a front end thereof, said nozzle having a combustion chamber at a bottom thereof and a glue stick melting hole through an axis thereof for melting a glue stick, said combustion chamber having a heat conductive element therein, a gas tank in a grip thereof, a gas burner at one end of said combustion chamber to burn a flow of gas from said gas tank through a gas tube in heating said heat conductive element, said gas burner having radiation fins attached thereto, a gas flow control device fastened in said gas tube at one end for controlling a flow of gas from said gas tank to said gas burner for burning, an ignition switch controlled to make a fire for burning a flow of gas from said gas tank at said gas burner, a gas flow rate regulating knob connected to said ignition switch for controlling the flow rate of gas from said gas tank by a gas flow rate regulating screw, wherein burning the flow of gas causes said heat conductive element to melt the glue stick inserted in said glue stick melting hole.

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Patents Act 1977
Examiner's report to the Comptroller under
Section 17 (The Search Report)

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Relevant Technical fields

(i) UK CI (Edition K) B2F (FGF)

(ii) Int CI (Edition 5) B05B 7/16, 7/20

Databases (see over)

(i) UK Patent Office

(ii)

Search Examiner

S I AHMAD

Date of Search

24 MARCH 1992

Documents considered relevant following a search in respect of claims

A SOLITARY CLAIM

Category (see over)	Identity of document and relevant passages	Relevant to claim(s)
	NONE	

SF2(p)

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Category	Identity of document and relevant passages	Relevant to claim(s)

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